

Historic, archived document

Do not assume content reflects current scientific knowledge, policies, or practices.

United States Department of Agriculture,

BUREAU OF PLANT INDUSTRY,

Western Agricultural Extension,

WASHINGTON, D. C.

HINTS TO SETTLERS ON THE TRUCKEE-CARSON PROJECT, NEVADA.

DESCRIPTION OF THE REGION.

The prospective settler within the limits of the Truckee-Carson project should take a careful look around the valley before settling upon a homestead or buying a farm. The valley is large, and its various parts differ greatly in soil and agricultural possibilities. The greater part of the irrigable land lies in the Carson Sink Valley within a radius of 15 miles of Fallon. The only land now open for settlement not in this valley lies west of Hazen and extends to Fernley and Wadsworth.

The valley is about 4,000 feet above sea level and has a climate not far different from that of central and northern Utah. The winters are mild, with very little snow. The majority of the days are clear. Intensely cold weather seldom occurs. Zero temperature usually occurs at least once each winter, though the ground seldom freezes below 6 inches. Alfalfa usually starts growth in February, and during March and April grows from 3 to 6 inches. Gardens are planted during May, and the farmers who have been here several years consider frosts unusual after May 15. Hot weather comes on about June 10 and continues until the latter part of August. Day temperatures reach 100° F. and sometimes a few degrees higher, but the dry atmosphere prevents the heat being oppressive, while the nights are always cool. The first frosts occur late in September, although alfalfa continues to grow until the latter part of October. Winds are most frequent during the winter and early spring months. Those occurring during April and May are the most annoying to farmers, for it is at this time that the crops are young and most sensitive to blowing sand. On heavy soils or where crops are well started the damage from winds is small.

The soils of the valley are formed from sediments laid down in the bottom of a lake which once covered this part of Nevada. Since the lake has disappeared Carson River has deposited other sediment and reworked the old lake beds, leaving the soils spotted, varying from

wind-blown or river sand to clay or adobe. The soil in those parts of the valley reached by the overflow from the river at high water is usually dark in color and very fertile. The higher lands and those at a distance from the rivers are generally poor in organic matter but are improved by irrigation, tillage, and the growing of crops which leave vegetable matter in the soil.

Two types of soil have proved difficult to handle during the first year or two—the lighter sand and the adobe or clay. The lighter sand is blown about by the wind and shows lack of fertility, and the adobe or clay is adhesive when moist, is difficult to till, and bakes upon drying, making it difficult to secure and maintain a stand of crops. Both types are valuable soils when subdued, but time and proper treatment are required to accomplish this. The sandy land becomes especially valuable for alfalfa, potatoes, gardening, and fruit, while the clay is better for grasses and grain.

SELECTING A FARM.

It is well to remember in selecting land that the higher areas are less likely to be damaged in the future by rise of seepage water or alkali than are those lying low; and, therefore, while the bottom lands may produce the most crops the first years of cultivation, the trouble of protecting such land from seepage and alkali may make them the most costly in the long run.

Having selected a farm, the prospective settler should carefully study the conditions surrounding his place to lay a definite plan for its development, so that all work done will be effective and will not need to be done over at some time in the future. In order to lay such a plan most intelligently the knowledge of the country gained by others should be utilized, and it therefore becomes advisable to spend considerable time at the start visiting neighbors and the experiment farm at Fallon to get all the information available. Do not think because you have irrigated in another region that you understand all about conditions here, for it has been shown by many farmers here that previous experience is far from being an infallible guide. Many mistakes will be made unless the greatest care and foresight are used. Each farm is a problem in itself, and the farmer who makes the most intelligent study of his farm before attempting its development is the one who will have the least work to do over and the fewest errors to regret.

THE FARM EQUIPMENT.

The farm selected and the plan well laid, it becomes necessary to consider the purchase of farm equipment, the erection of buildings, and the placing of other permanent improvements. It is not wise to expend all available capital at the beginning of the work, because many unforeseen expenses may have to be met, the first crops may not come up to

expectations, and the settler may find himself at the end of the first or second year without money to carry on his farm operations. It would be well to lay aside a reserve of money to be used in emergencies.

It is difficult to advise a man in regard to the purchase of equipment and the erection of buildings or the making of other permanent improvements. These will depend upon the kind of farming to be followed and the amount of capital available. The mild climate renders an expensive house unnecessary. Many settlers build houses simply of boards and battens, and when their farms begin to yield returns these are replaced with more substantial structures. Barns are not necessary; a shed will serve as a shelter for cattle and horses. Hay needs no protection from the weather.

Nevada has no laws to protect the farmer from stray cattle; consequently it is necessary to fence crops likely to be injured by them. Windmills are not dependable. Many other things of this kind will be learned in looking around the valley before beginning improvements, and the mistakes avoided after such an investigation will more than pay for the time involved.

Some settlers buy a team and do all their own team work; others hire their team work done. In deciding whether or not a team is to be purchased it should be remembered that hay and grain are high priced and that sometimes not enough forage will be raised the first year to feed a team. The same is true regarding the purchase of chickens, pigs, and cows. These animals are all desirable and necessary for the success of the farm as soon as feed can be grown, but they may prove expensive to keep until that time.

Farm tools used in irrigated countries differ in many respects from those used in rain belts. Tools should not be purchased until the farmer becomes acquainted with local farm practices. One of the most important tools is a scraper for leveling the land. Various forms of scrapers are on the market, but the ingenious man can for a few dollars build a scraper which will answer many purposes. Other tools for making ditches, levees, and furrows for irrigation can be purchased, but they, too, can often be made on the farm much cheaper. Mowers, harvesters, thrashers, drills, hay presses, etc., are expensive implements and can generally be hired at first, thus saving a large outlay of capital for the beginner.

CLEARING AND LEVELING THE LAND.

Clearing and leveling are the most important and at the same time among the more expensive operations in the reclamation of a farm. It is therefore necessary that a careful study of conditions should be made before commencing this work. No more land should be cleared of brush than can be leveled and watered immediately. When brush is removed and the land is allowed to lie unprotected the wind removes

much of the most valuable part of the soil and in so doing damages crops or ditches lying to the leeward. Brush can be removed by grubbing or by dragging a railroad iron over the land. Small brush is often removed by plowing and collecting the loosened brush with a pitchfork. Much of this material may be utilized for building wind-breaks and corrals or for fuel.

In leveling land remember that when the soil is removed, leaving raw subsoil exposed, the best crop yields are not realized until the subsoil has had an opportunity to weather, which takes time. Therefore, plan the leveling so as to remove as little of the surface soil as possible consistent with a convenient arrangement of checks and fields. Many times in order to have ground producing at once it pays to sacrifice an orderly arrangement and be satisfied with small or irregular checks, leaving the more regular arrangement and more expensive leveling until later. For the same reason it is often unwise in preparing the seed bed on new ground to stir the ground deeper than an inch or two. Particularly on the clay land it is better to prepare the seed bed the first year without plowing, simply making a fine seed bed of the surface soil with the disk and harrow.

A general description of methods of clearing and leveling land and the different kinds of tools used in this work in various parts of the West can be found in Farmers' Bulletins 138, 158, and 263, copies of which may be obtained by writing to the Secretary of Agriculture, Washington, D. C.

CROPS FOR THE NEW FARMER.

The following discussion of crops is intended primarily for the new settler who has not yet acquired any farm experience under our conditions. Only the crops that are of interest to the beginner are considered. That the reader has general information about these crops is assumed, and the discussion is from a local standpoint. So much relative to farming methods and crops to be grown in our valley remains to be settled by careful experiments that preconceived notions of how to farm there should be held somewhat in abeyance. On going there no one should stifle the faith he has in his farming ability, but if his self-reliance can be remolded so as to be a faith in his ability to learn, fewer failures will affect his purse or rudely shock his faith in himself or the possibilities of the country. It is wise to consult unsuccessful as well as successful farmers, pass judgment on the value of their experiences, expect to make some mistakes, and profit by them.

HOME-MAINTENANCE CROPS.

One of the basic principles of success on a small farm is that the farmer must first look to growing, as far as may be, the products that he uses. Since it is a fairly well-established fact that on an average of all

farm products the farmer gets but 35 cents of the consumer's dollar, it is approximately true that it costs the farmer 200 per cent more to purchase than to produce the supplies he needs—a disproportion that one can ill afford. The new farmer has to approach this proposition in two ways: By producing as much as he can and by keeping no live stock that he can dispense with until the stock can be fed with the products of the farm.

Among the vegetables that one may grow the most easily for his table are potatoes, onions, cabbage, sweet corn, carrots, cucumbers, melons, and tomatoes. The farmer should endeavor to grow feed needed by his stock the first year he is on the homestead. Some wheat should be grown (either as a nurse crop for alfalfa or alone) for chicken and pig feed. This can be fed unthrashed as long as the crops are too small to justify the trouble and expense of thrashing. Under most conditions feed for the first year can be most economically produced by sowing alfalfa with grain in the spring. If the land is good and the crop well handled, barring destructive sand storms, some grain hay can be cut in midsummer and a light crop of alfalfa harvested in the fall. If a man feels that he is financially able to make experiments so early in his farm work, he might try as supplemental feed crops the grain-producing kafirs, corn, millet, and such root crops as mangle-wurzels and carrots. Before trying these crops let him learn what success others have had with them.

MONEY CROPS.

Of the crops grown in the valley alfalfa is preeminent. Marketed either as hay or in its modified form as dairy products, horses, or pork, it will probably continue for some time to be the chief source of revenue for the Carson Sink farmer. But little return can be expected the year it is sown, yet if the need of immediate return from the farm is not too pressing no better farm practice can be adopted by the settler here than to put all his land as fast as it is leveled into alfalfa before attempting to grow other crops on it. However, exception should be made of enough land for a garden and the bottom lands that are already rich in organic matter.

Alfalfa is usually sown here in April and May, but midsummer seeding has been successful. As our summer atmosphere is dry and hot, spring seeding would be preferable were it not for the loss caused by sand storms, which are more frequent in spring than later. The losses resulting from this cause can be lessened by sowing a grain crop as early as the season will permit, to be followed with a seeding of alfalfa when the grain has grown sufficiently to be a protection against sand storms. The alfalfa can best be sown into the grain with a grain drill, yet sowing broadcast and covering the seed by drag harrowing the field is sometimes successful and injures the grain very little. As alfalfa seeds are small they should not be sown deep, from three-fourths inch to one and

one-half inches being satisfactory. Sixteen to twenty pounds of good seed is sufficient to sow an acre if the seed bed is well prepared. When alfalfa is sown with grain, irrigation should be given whenever required by the alfalfa, regardless of the moisture needs of the grain.

Besides being both a money and home-maintenance crop alfalfa is of inestimable value for subduing, enriching, and mellowing our virgin desert soils. Only by growing alfalfa as a pioneer crop and in rotations are the best results to be had with grain, truck, and garden crops. If, however, the need of immediate income from the farm is imperative the crops discussed below will likely prove the most profitable ones to grow.

Potatoes bring good prices and are successfully grown by those who understand how to handle this crop. Where a choice is practicable, much care should be used in selecting potato land when none but virgin soil is available. The necessity for using good seed and the best irrigation and cultural methods can not be overlooked. Until the farmer can have alfalfa stubble to plow under or can manure his potato land he should not attempt to grow this crop extensively. Planting should be done as early as the late spring freezes will permit—from April 15 to May 10. It may often be desirable to sell potatoes in late summer, when the market is not so exacting as it is in the late fall and winter.

Onions have proved a profitable crop for some of our farmers who have selected their land with care and given them the careful tillage demanded. Onions require a long season in which to mature and will stand many degrees of frost; therefore early planting is recommended. They may be planted as early as March.

Cabbage has been grown with varying degrees of success. This crop is exacting in its soil requirements. Before one can hope to grow cabbage successfully he must manure or otherwise build up his soil. There are limited areas of rather heavy soil containing much organic matter that will grow fair crops of cabbage without being fertilized.

Watermelons, cantaloupes, and tomatoes grow well here. Owing to our rather short seasons these vegetables are not on the market early enough to command the highest prices; also the market period is short. To make these crops pay, every farm practice that tends to mature them early should be used. The warmest soil, careful irrigation, and, above all, intensive cultivation to keep the surface soil warm and dry will serve this purpose. Extra early varieties are also essential, such as Early Fordhook and Augusta watermelons; Emerald Gem and Rocky Ford cantaloupes; Sparks' Earliana, Earliest Pink, Chalk's Earliest, Dwarf Champion, and Jewel tomatoes. These vines, especially melons, are sensitive to low temperatures. Nothing can be gained by planting them in the open until the cool spring weather is over. When planted so early that they barely escape the last frost they often become stunted and do not produce as early as vines from later

plantings. Melons might be successfully grown in a small way from plants started in pots in hotbeds, but the inexperienced should not invest much labor and capital in an attempt of this kind.

Cucumbers are grown here as easily as elsewhere, and the first to be put on the market command good prices. Long Green and White Spine are good varieties to try.

Squashes grow well and bring prices that would astonish farmers who have grown them elsewhere. The market for them may be dull in the fall, but those who hold them until winter find ready sale for them. Squashes do not thrive in cool weather and should not be planted till a week or so after the last frost.

Sweet corn is often so badly injured by the ravages of earworms as to be of doubtful value as a marketable crop. Those intending to grow it should try the Oregon Evergreen, as the husk of this variety is more resistant to worms than that of other kinds.

Beans and peas do not grow well on our virgin soils, and the beginner should attempt to grow them only in very limited quantities.

LIVE STOCK.

Our climate and market conditions are extremely favorable for the poultry industry, hog raising, and dairying. As fast as the farmer increases the yields from his farm and gains experience in handling live stock he may safely undertake this work on a larger scale. Until such a time as the farmer is able to grow the greater part of his feed and has had actual experience in handling dairy cattle, pigs, and chickens, failure rather than success is likely to be the result of his efforts.

IRRIGATION METHODS.

Under this project all field crops are irrigated by flooding in checks except in the Fernley district, where furrow irrigation is practiced for all crops. No definite rules can be given to guide those who have had no experience with irrigation. The frequency of applications of water will necessarily depend on the crops being grown, on the soil, and on weather conditions. The finer the soil the longer it will remain moist. Coarse, sandy soils lose moisture rapidly. The safest guide as to when an irrigation is needed is the appearance of the crop. The experienced farmer will soon learn when his crop is suffering for moisture, but will not irrigate till the necessity is clearly indicated. It should also be remembered that cultivation will not only save the trouble of irrigation but will also make the crops grow more rapidly by letting the surface soil get warmed up, which is impossible when it remains undisturbed after irrigation.

Garden and truck crops are usually irrigated by the furrow method. The chief thing to be observed in furrow irrigation is to have the irrigation furrows near the plant rows and keep water in them long enough

to thoroughly moisten the land. A mistake commonly made by inexperienced irrigators is to use too large a stream of water, which washes the furrows and carries into the waste ditch the finer and more valuable particles of the soil.

TREE PLANTING.

As trees add so much to the attractiveness and the comfort of a home, the new settler should not long delay planting a few trees on his place. The first year he is on the farm it would be well to plant at least some of the commoner varieties of quick-growing shade trees. Cottonwoods, Lombardy poplars, Carolina poplars, and black locust are among the more satisfactory trees to plant. Tamarisks are quick-growing shrubs and will be found valuable for hedge purposes. They can be grown from cuttings, which are easily obtained in the valley. The rarer and more expensive trees and shrubs can be planted at a later time. As the planting of an orchard is a very important operation on a farm it would be well to defer this work until the settler has had at least one year's experience with his farm and the general conditions of the valley. At least his labors along this line should be confined to starting a small family orchard.

THOS. H. MEANS.

SHOBER J. ROGERS.

Approved:

B. T. GALLOWAY,
Chief of Bureau.

FEBRUARY 19, 1909.

O